20



<110> Susan M. Freier

<120> ANTISENSE MODULATION OF HYDROXYSTEROID 11-BETA DEHYDROGENASE 1 EXPRESSION

<130> RTS-0428

<160> 122

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 20

<212> DNA

<213> Artificial Sequence

<223> Antisense Oligonucleotide

<400> 1

tecgteateg etecteaggg

<210> 2

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 2

20 atgcattctg cccccaagga

<210> 3

<211> 1375

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (95) ... (973)

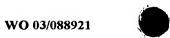
<400> 3

attcagagge tgetgeetge ttaggaggtt gtagaaaget etgtaggtte tetetgtgtg 60 tcctacagga gtcttcaggc cagctccctg tcgg atg gct ttt atg aaa aaa tat 115 Met Ala Phe Met Lys Lys Tyr

ctc ctc ccc att ctg ggg ctc ttc atg gcc tac tac tac tat tct gca 163 Leu Leu Pro Ile Leu Gly Leu Phe Met Ala Tyr Tyr Tyr Tyr Ser Ala 15 10

aac gag gaa ttc aga cca gag atg ctc caa gga aag aaa gtg att gtc 211 Asn Glu Glu Phe Arg Pro Glu Met Leu Gln Gly Lys Lys Val Ile Val 25 30

aca ggg gcc agc aaa ggg atc gga aga gag atg gct tat cat ctg gcg 259



Thr 40	Gly	Ala	Ser	Lys	Gly 45	Ile	Gly	Arg	Glu	Met 50	Ala	Tyr	His	Leu	Ala 55	
aag Lys	atg Met	gga Gly	gcc Ala	cat His 60	gtg Val	gtg Val	gtg Val	aca Thr	gcg Ala 65	agg Arg	tca Ser	aaa Lys	gaa Glu	act Thr 70	cta Leu	307
cag Gln	aag Lys	gtg Val	gta Val 75	tcc Ser	cac His	tgc Cys	ctg Leu	gag Glu 80	ctt Leu	gga Gly	gca Ala	gcc Ala	tca Ser 85	gca Ala	cac His	355
tac Tyr	att Ile	gct Ala 90	Gly	acc Thr	atg Met	gaa Glu	gac Asp 95	atg Met	acc Thr	ttc Phe	gca Ala	gag Glu 100	caa Gln	ttt Phe	gtt Val	403
gcc Ala	caa Gln 105	gca Ala	gga Gly	aag Lys	ctc Leu	atg Met 110	gga Gly	gga Gly	cta Leu	gac Asp	atg Met 115	ctc Leu	att Ile	ctc Leu	aac Asn	<b>451</b>
cac His 120	atc Ile	acc Thr	aac Asn	act Thr	tct Ser 125	ttg Leu	aat Asn	ctt Leu	ttt Phe	cat His 130	gat Asp	gat Asp	att Ile	cac His	cat His 135	499
gtg Val	cgc Arg	aaa Lys	agc Ser	atg Met 140	gaa Glu	gtc Val	aac Asn	ttc Phe	ctc Leu 145	agt Ser	tac Tyr	gtg Val	gtc Val	ctg Leu 150	act Thr	547
gta Val	gct Ala	gcc Ala	ttg Leu 155	ccc	atg Met	ctg Leu	aag Lys	cag Gln 160	agc Ser	aat Asn	gga Gly	agc Ser	att Ile 165	gtt Val	gtc Val	595
gtc Val	tcc Ser	tct Ser 170	Leu	gct Ala	Gly	aaa Lys	gtg Val 175	gct Ala	tat Tyr	cca Pro	atg Met	gtt Val 180	gct Ala	gcc Ala	tat Tyr	643
tct Ser	gca Ala 185	Ser	aag Lys	ttt Phe	gct Ala	ttg Leu 190	Asp	GJA aaa	ttc Phe	ttc Phe	tcc Ser 195	Ser	atc Ile	aga Arg	aag Lys	691
gaa Glu 200	Tyr	tca Ser	gtg Val	tcc Ser	agg Arg 205	Val	aat Asn	gta Val	tca Ser	ato Ile 210	Thr	cto Leu	tgt Cys	gtt Val	ctt Leu 215	739
ggc	cto Leu	ata Ile	gac Asp	aca Thr 220	Glu	aca Thr	gcc Ala	atg Met	aag Lys 225	: Ala	gtt Val	tct Ser	ggg	ata Ile 230	gtc Val	787
cat His	atg Met	caa Glr	gca Ala 235	a Ala	cca Pro	aag Lys	gag Glu	gaa Glu 240	Cys	geo Ala	: ctg Lev	gag Glu	ato Ile 245	. Ile	aaa Lys	835
G1 <sup>2</sup> 333	g gga	gct Ala 250	Leu	g ege	caa Glr	ı gaa ı Glu	gaa Glu 255	ı Val	tai Tyi	tat Tyr	gac Asp	ago Ser 260	Ser	cto Leu	tgg Trp	883
acc Thi	act Thi	: Lev	cto Lev	ato Ile	aga Arg	a aat g Asi 270	1 Pro	tgo Cys	agg Arg	g aag g Lys	g ato 3 Ile 275	e Lev	gaa Glu	a ttt 1 Phe	ctc Leu	931
tao Ty:	c tca c Sej	a aco	g ago	c tat r Tyr	aat Asr	ato Mei	g gad t Asp	aga Arg	tto Phe	e ata	a aad a Asi	c aag n Lys	tag *	3		973

280 285	
---------	--

280	20	55	290			
tgagctctta tcacacctga tgaatgtcat taccagatag tattaattat	tctatgaaga caaatggaag gcaccgctgc ttatattaaa aataaaggtc	catcttccca gagttcctct agccagcagt tttatatctt acataaactt	attttgggac gagtgtccc aacatttgca tgtaaaattg atatataata tataaattca aactgtacaa	agagacatgc aaatggaaat ttagtaaaca atatgtgatg taactggtag	aagtcatggg gtaataataa taggtataat attaatacaa	1093 1153 1213 1273
<210> 4 <211> 24 <212> DNA <213> Arti	ficial Sequ	ence				
<220> <223> PCR	Primer					
<400> 4 gtttctggga	tagtccatat	gcaa				24
<210> 5 <211> 21 <212> DNA <213> Arti	ficial Sequ	ence				
<220> <223> PCR	Primer					
<400> 5 agctccccct	ttgatgatct	C				21
<210> 6 <211> 25 <212> DNA <213> Arti	ficial Sequ	ence				
<220> <223> PCR	Probe					
<400> 6 cagctccaaa	ı ggaggaatgt	geeet				25
<210> 7 <211> 19 <212> DNA <213> Arti	ficial Sequ	ience				
<220> <223> PCR	Primer					
<400> 7 gaaggtgaag	g gteggagte					19
<210> 8 <211> 20 <212> DNA <213> Arti	ificial Sequ	ience				
<220>						

### <223> PCR Primer

<400> 8 gaagatggtg atgggatttc	20
<210> 9 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> PCR Probe	
<400> 9 caagetteec gttetcagec	20
<210> 10 <211> 1350 <212> DNA <213> Mus musculus	
<220> <221> CDS <222> (128)(1006)	
<pre>&lt;400&gt; 10 ggatgagaca gaaggataga gaggaggaga gagagagaga gaagagaagc aaccagaaat aggcagccaa taaaaaggag ccgcacttat ctgaagcctc aaggggcctg agccaggtcc ctgtttg atg gca gtt atg aaa aat tac ctc ctc ccg atc ctg gtg ctc</pre>	60 120 169
tcc ctg gcc tac tac tac tat tct aca aat gaa gag ttc aga cca gaa Ser Leu Ala Tyr Tyr Tyr Tyr Ser Thr Asn Glu Glu Phe Arg Pro Glu 15 20 25 30	217
atg ctc cag gga aag aaa gtg att gtc act ggg gcc agc aaa ggg att Met Leu Gln Gly Lys Lys Val Ile Val Thr Gly Ala Ser Lys Gly Ile 35 40 45	265
gga aga gaa atg gca tat cat ctg tca aaa atg gga gcc cat gtg gta Gly Arg Glu Met Ala Tyr His Leu Ser Lys Met Gly Ala His Val Val 50 55 60	313
ttg act gcc agg tcg gag gaa ggt ctc cag aag gta gtg tct cgc tgc Leu Thr Ala Arg Ser Glu Glu Gly Leu Gln Lys Val Val Ser Arg Cys 65 70 75	361
ctt gaa ctc gga gca gcc tct gct cac tac att gct ggc act atg gaa Leu Glu Leu Gly Ala Ala Ser Ala His Tyr Ile Ala Gly Thr Met Glu 80 85 90	409
gac atg aca ttt gcg gag caa ttt att gtc aag gcg gga aag ctc atg Asp Met Thr Phe Ala Glu Gln Phe Ile Val Lys Ala Gly Lys Leu Met 95 100 105 110	457
ggc gga ctg gac atg ctt att cta aac cac atc act cag acc tcg ctg Gly Gly Leu Asp Met Leu Ile Leu Asn His Ile Thr Gln Thr Ser Leu 115 120 125	505

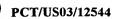
<400> 11

ggcggactgg acatgctt



18

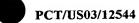
· · · · · · · · · · · · · · · · · · ·	
tet etc tte eat gae gae ate eac tet gtg ega aga gte atg gag gte 553 Ser Leu Phe His Asp Asp Ile His Ser Val Arg Arg Val Met Glu Val 130 135 140	
aac ttc ctc agc tac gtg gtc atg agc aca gcc gcc ttg ccc atg ctg Asn Phe Leu Ser Tyr Val Val Met Ser Thr Ala Ala Leu Pro Met Leu 145 150 155	
aag cag agc aat ggc agc att gcc gtc atc tcc tcc ttg gct ggg aaa 649 Lys Gln Ser Asn Gly Ser Ile Ala Val Ile Ser Ser Leu Ala Gly Lys 160. 170	
atg acc cag cct atg att gct ccc tac tct gca agc aag ttt gct ctg  Met Thr Gln Pro Met Ile Ala Pro Tyr Ser Ala Ser Lys Phe Ala Leu  175 180 185 190	
gat ggg ttc ttt tcc acc att aga aca gaa ctc tac ata acc aag gtc  Asp Gly Phe Phe Ser Thr Ile Arg Thr Glu Leu Tyr Ile Thr Lys Val  195 200 205	
aac gtg tcc atc act ctc tgt gtc ctt ggc ctc ata gac aca gaa aca Asn Val Ser Ile Thr Leu Cys Val Leu Gly Leu Ile Asp Thr Glu Thr 210 215 220	
gct atg aag gaa atc tct ggg ata att gac gcc cta gct tct ccc aag 841 Ala Met Lys Glu Ile Ser Gly Ile Ile Asp Ala Leu Ala Ser Pro Lys 225 230 235	
gag gag tgc gcc ctg gag atc atc aaa ggc aca gct cta cgc aaa agc 889 Glu Glu Cys Ala Leu Glu Ile Ile Lys Gly Thr Ala Leu Arg Lys Ser 240 245 250	į
gag gtg tac tat gac aaa ttg cct ttg act cca atc ctg ctt ggg aac Glu Val Tyr Tyr Asp Lys Leu Pro Leu Thr Pro Ile Leu Leu Gly Asn 255 260 265 270	,
cca gga agg aag atc atg gaa ttt ttt tca tta cga tat tat aat aag 985 Pro Gly Arg Lys Ile Met Glu Phe Phe Ser Leu Arg Tyr Tyr Asn Lys 275 280 285	j
gac atg ttt gta agt aac tag gaacteetga geeetggtga gtggtettag 103 Asp Met Phe Val Ser Asn * 290	36
aacagteetg eeteataett eagtaageee taeceacaaa agtatettte eagagataea 109 caaattttgg ggtacacete ateatgagaa attettgeaa eaettgeaca gtgaaaatgt 115 aattgtaata aatgteacaa aceaetttgg geetgeagtt gtgaaettga ttgtaaetat 121 ggatataaac acatagtggt tgtategget ttaeeteaca etgaatgaaa caatgataac 127 taatgtaaca ttaaatataa taaaggtaat ateaaetteg taaatgcaaa aaaaaaaaaa 133 aaaaaaaaaa aaaa	56 L6 76 36
<210> 11 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> PCR Primer	



<210> 12 <211> 22 <212> DNA <213> Artificial Sequence	
<220> <223> PCR Primer	
<400> 12 gagtggatgt cgtcatggaa ga	22
<210> 13 <211> 31 <212> DNA <213> Artificial Sequence	
<220> <223> PCR Probe	
<400> 13 ttctaaacca catcactcag acctegetgt c	31
<210> 14 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> PCR Primer	
<400> 14 ggcaaattca acggcacagt	20
<210> 15 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> PCR Primer	
<400> 15 gggtctcgct cctggaagat	20
<210> 16 <211> 27 <212> DNA <213> Artificial Sequence	
<220> <223> PCR Probe	



<400> 16	27
aaggccgaga atgggaagct tgtcatc	2,
<210> 17	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 17	
agaatagtag tagtaggcca	20
2010\ 10	
<210> 18 <211> 20	
<211> 20 <212> DNA	
<213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
22237 Antisense Offgondereourd	
<400> 18	
gtgacaatca ctttctttcc	20
<210> 19	
<211> 20	
<212> DNA <213> Artificial Sequence	
(213) Altititud boquonee	
<220>	
<223> Antisense Oligonucleotide	
<400> 19	20
ctgcttcagc atgggcaagg	
<210> 20	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 20	
attgetetge tteageatgg	20
<210> 21	
<211> 20	
<212> DNA	
<pre></pre>	



20

VO 03/088921	

<220> <223>	Oligonucleotide

<223> Antisense Oligonucleotide

<223> Antisense Oligonucleotide

<400> 21 tctgtgtcta tgaggccaag	
<210> 22	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	

<400> 22 getgtttetg tgtetatgag	20
<210> 23 <211> 20 <212> DNA <213> Artificial Sequence	
Z220\	

<400> 23 cctttgatga tctccagggc	20
<210> 24	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
Z220\	

<400> 24 ctaagcaggc agcagcctct	20
<210> 25 <211> 20 <212> DNA <213> Artificial Sequence	
<220>	

<223> Antisense Oligonucleotide	
<400> 25 acagagettt etacaacete	20



## PCT/US03/12544

<210> 26	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
4000	
<pre>&lt;220&gt; &lt;223&gt; Antisense Oligonucleotide</pre>	
<223> Antisense Oligonacieotiae	
<400> 26	
ataaaagcca tccgacaggg	20
<210> 27	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 27	
cttggagcat ctctggtctg	20
Collygageac cools	
<210> 28	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 28	
taccacette tgtagagttt	20
<210> 29	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 29	
tccaagetcc aggcagtggg	20
<210> 30	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	



<400> 30 gtgccagcaa tgtagtgtgc	20
<210> 31 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 31	
caaattgctc tgcgaaggtc	20
<210> 32 <211> 20 <212> DNA	
<213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 32	20
tecteceatg agettteetg	20
<210> 33 <211> 20	
<212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 33	20
agaatgagca tgtctagtcc	20
<210> 34 <211> 20	
<212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 34	20
gcacatggtg aatatcatca	20
<210> 35 <211> 20	
<212> DNA	
<213> Artificial Sequence	

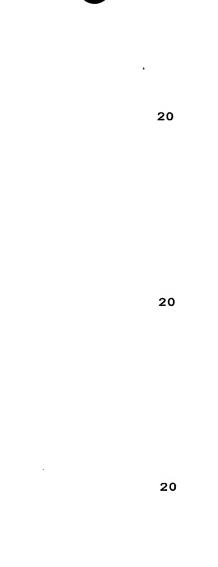


<220>		
<223>	Antisense	Oligonucleotide

<223> Antisense Oligonucleotide
<400> 35
ccacgtaact gaggaagttg
<210> 36
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Antisense Oligonucleotide
<400> 36
aacaatgett ceattgetet
aacaacycee coaccycooc
<210> 37
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Antisense Oligonucleotide
(400) 27
<400> 37 tttcccagcc agagaggaga
ttteecagee agagaggaga
<210> 38
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Antisense Oligonucleotide
<400> 38
tccaaagcaa acttgcttgc

<400>	38
tccaaa	agcaa acttgcttgc
<210>	30
<211>	* -
<212>	DNA
<213>	Artificial Sequence
<220>	
<223>	Antisense Oligonucleotide

<400> 39 acagagagtg	attgatacat
<210> 40	



20

.eotide			
			20
			20
à			
Leotide			



<211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 40 atggactate ccagaaactg	20
<210> 41 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 41 cctttggagc tgcttgcata	20
<210> 42 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 42 tcccctttg atgatctcca	20
<210> 43 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 43 cttcttggcg cagagetece	20
<210> 44 <211> 20 <212> DNA <213> Artificial Sequence	
<220>	

<400> 44 agagtggtcc agagtgagct	20
<210> 45 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 45 ctgatcagaa gagtggtcca	20
<210> 46 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 46 tgagtagaga aattccagga	20
<210> 47 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 47 agcatgccca gccctcaggg	20
<210> 48 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 48 cccaaaatcc ctcagcatgc	20
<210> 49 <211> 20 <212> DNA <213> Artificial Sequence	
<220>	

<210> 54 <211> 20



### <223> Antisense Oligonucleotide

<400> 49	
gggaagatgt cttcatagat	20
<010\ F0	
<210> 50 <211> 20	
<211> 20 <212> DNA	
<213> Artificial Sequence	
\Z13> Artificial bequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 50	
gtgtgaccca tgacttgcat	20
g cg cgaccoa cgaccogoac	
<210> 51	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<pre>&lt;223&gt; Antisense Oligonucleotide</pre>	
AZZJY MICISENSE OIIGONGCIEOCIGE	
•	
<400> 51	
tccatttgtc aggtgtgacc	20
<210> 52	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 52 ·	
catttccatt ttgcaaatgt	20
<210> 53	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
and in original podemico	
<220>	
<223> Antisense Oligonucleotide	
<400> 53	
cctatgttta ctaacaattt	20
~	

# WO 03/088921 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 54 tagctaccag ttatgaattt <210> 55 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 55 agaaccatcc tgaataagct <210> 56 <211> 20 <212> DNA <213> Artificial Sequence

PCT/US03/12544

20

<400> 57
ctctatcctt ctgtctcatc

<210> 58
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Antisense Oligonucleotide

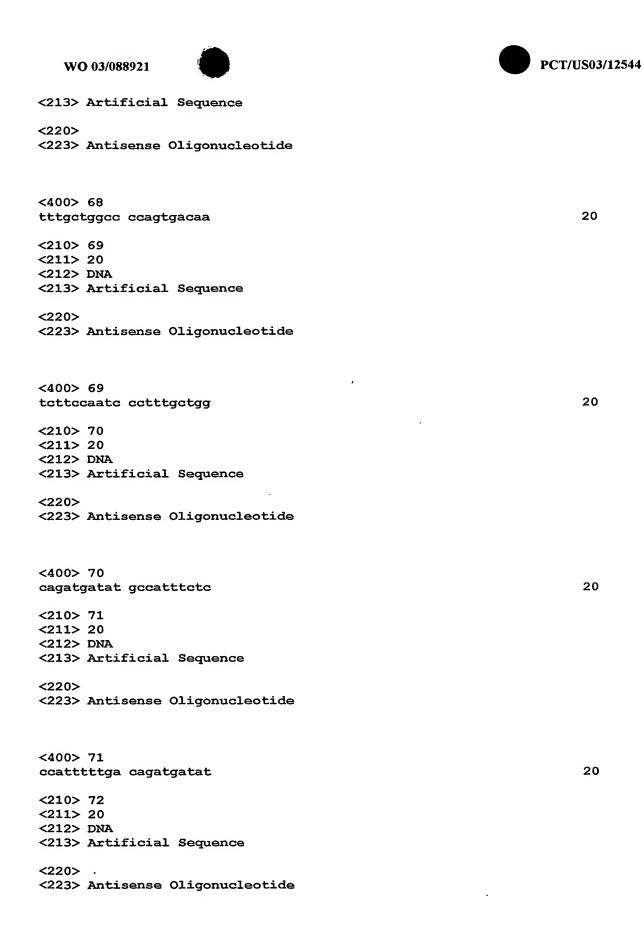
# WO 03/088921 gaggcttcag ataagtgcgg 20 <210> 59 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 59 ggacctggct caggcccctt 20 <210> 60 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 60 atcaaacagg gacctggctc 20 <210> 61 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 61 ataactgcca tcaaacaggg 20 <210> 62 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 62 gagcaccagg atcgggagga 20 <210> 63 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide

PCT/US03/12544

<211> 20 <212> DNA



<400> 63	
ccagggagag caccaggatc	20
<210> 64	
<211> 04 <211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 64	20
ttcatttgta gaatagtagt	20
<210> 65	
<211> 20 <212> DNA	
<213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
· · · · · · · · · · · · · · · · · · ·	
<400> 65	
gtctgaactc ttcatttgta	20
<210> 66	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 66 agcatttetg gtetgaacte	20
ageatttetty gtetgaaett	20
<210> 67	
<211> 20 <212> DNA	
<213> Artificial Sequence	
<220>	
<pre>&lt;220&gt; &lt;223&gt; Antisense Oligonucleotide</pre>	
<400> 67	
ggccccagtg acaatcactt	20
<210> 68	



20

<400> 72

acatgggctc ccatttttga

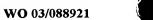
# PCT/US03/12544

### WO 03/088921

<210> 73	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 73	
agtcaatacc acatgggctc	20
<210> 74	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
Allo interrotat podacino	
<220>	
<223> Antisense Oligonucleotide	
(22) Antisense Origonacieotrae	
<400> 74	
agttcaaggc agcgagacac	20
agticaagge agegagacae	20
<210> 75	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
4000	
<220>	
<223> Antisense Oligonucleotide	
(400) 75	
<400> 75	00
ggctgctccg agttcaaggc	20
1010) 75	
<210> 76	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 76	
agtgagcaga ggctgctccg	20
<210> 77	
<211> 20 ·	
<212> DNA	
<213> Artificial Sequence	

<223> Antisense Oligonucleotide

<400> 77	
aataaattgc tccgcaaatg	20
addadecyc cocycladey	20
<210> 78	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
1000	
<220>	
<223> Antisense Oligonucleotide	
<400> 78	
cccatgaget ttcccgcctt	20
<210> 79	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
-	
<400> 79	
cgaggtctga gtgatgtggt	20
<210> 80	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
The imprince	
<220>	
<223> Antisense Oligonucleotide	
VZZJZ MICISENSE OLIGONICIEOCINE	
<400> 80	
	20
cagagtggat gtcgtcatgg	20
202.00	
<210> 81	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 81	
ttgacctcca tgactcttcg	20
<210> 82	
<211> 20	
<212> DNA	
<213> Artificial Sequence	

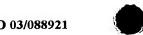




<220> <223> Antisense Oligonucleotide	
<400> 82 tgaggaagtt gacctccatg 20	)
<210> 83 <211> 20 <212> DNA	
<213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<pre>&lt;400&gt; 83 gctgccattg ctctgcttca</pre> 20	)
<210> 84	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 84	
<400> 84 gcaatgetge cattgetetg 20	)
	)
gcaatgctgc cattgctctg 20 <210> 85 <211> 20	)
gcaatgctgc cattgctctg 20 <210> 85 <211> 20 <212> DNA	)
gcaatgctgc cattgctctg 20 <210> 85 <211> 20	)
gcaatgctgc cattgctctg 20 <210> 85 <211> 20 <212> DNA	)
gcaatgctgc cattgctctg 20 <210> 85 <211> 20 <212> DNA <213> Artificial Sequence	)
gcaatgctgc cattgctctg 20 <210> 85 <211> 20 <212> DNA <213> Artificial Sequence <220>	)
gcaatgetge cattgetetg 20  <210> 85  <211> 20  <212> DNA  <213> Artificial Sequence  <220> <223> Antisense Oligonucleotide	)
gcaatgetge cattgetetg 20 <210> 85 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide	
gcaatgetge cattgetetg 20  <210> 85  <211> 20  <212> DNA  <213> Artificial Sequence  <220> <223> Antisense Oligonucleotide	
gcaatgetge cattgetetg 20 <210> 85 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide  <400> 85 atgacggcaa tgetgecatt 20 <210> 86	
gcaatgctgc cattgctctg 20 <210> 85 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide  <400> 85 atgacggcaa tgctgccatt 20 <210> 86 <211> 20	
20   210   85   211   20   212   DNA   213   Artificial Sequence   220   223   Antisense Oligonucleotide   20   210   86   211   20   212   DNA   212   DNA   20   212   20   212   DNA   20   212   212   DNA   20   212   DNA	
gcaatgctgc cattgctctg 20 <210> 85 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide  <400> 85 atgacggcaa tgctgccatt 20 <210> 86 <211> 20	
20	
gcaatgctgc cattgctctg  <210> 85 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide  <400> 85 atgacggcaa tgctgccatt  <210> 86 <211> 20 <212> DNA <213> Artificial Sequence	
20	
20	

# PCT/US03/12544

<210> 87 <211> 20 <212> DNA	
<213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 87	
aaacttgctt gcagagtagg	20
<210> 88	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 88	
catccagage aaacttgett	20
<210> 89	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 89	
gaaaagaacc catccagagc	20
<21.0× 0.0	
<210> 90 <211> 20	
<212> DNA	
<213> Artificial Sequence	
· <220>	
<pre>&lt;220&gt; &lt;223&gt; Antisense Oligonucleotide</pre>	
-	
<400> 90	
tctaatggtg gaaaagaacc	20
<210> 91 <211> 20	
<211> 20 <212> DNA	
<213> Artificial Sequence	
<220>	



<400> 91 ccttggttat gtagagttct	20
<210> 92 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 92 atggacacgt tgaccttggt	20
<210> 93 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 93 acagagagtg atggacacgt	20
<210> 94 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 94 tcaattatcc cagagatttc	20
<210> 95 <211> 20 <212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 95 gatetecagg gegeaetect	20
<210> 96 <211> 20	
<211> 20 <212> DNA	
<213> Artificial Sequence	



<2	20	>
----	----	---

<223> Antisense Oligonucleotide

#### <400> 96

gctgtgcctt tgatgatctc

20

- <210> 97
- <211> 20
- <212> DNA
- <213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

#### <400> 97

tttgcgtaga gctgtgcctt

20

- <210> 98
- <211> 20
- <212> DNA
- <213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

#### <400> 98

aggcaatttg tcatagtaca

20

- <210> 99
- <211> 20
- <212> DNA
- <213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

#### <400> 99

caagcaggat tggagtcaaa

20

- <210> 100
- <211> 20
- <212> DNA
- <213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

#### <400> 100

atgatettee tteetgggtt

20

<210> 101



PCT/US03/12544

<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 101	
aattccatga tcttccttcc	20
<210> 102	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
(223) Antisense Offgondcreotide	
<400> 102	
catgtcctta ttataatatc	20
6	
<210> 103	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
(223) Antibense Oligonacieotide	
<400> 103	
caggagttcc tagttactta	20
32 2	
<210> 104	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
1220 Millionia Oligonaciaciae	
<400> 104	
tctaagacca ctcaccaggg	20
	-
<210> 105	
<211> 20	
<212> DNA	
<212> DNA <213> Artificial Sequence	

<223> Antisense Oligonucleotide

# PCT/US03/12544 WO 03/088921 <400> 105 20 gggcttactg aagtatgagg <210> 106 <211> 20 <212> DNA <213> Artificial Sequence <223> Antisense Oligonucleotide <400> 106 20 tctctggaaa gatacttttg <210> 107 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 107 20 atttgtgtat ctctggaaag <210> 108 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 108 20 gtaccccaaa atttgtgtat <210> 109 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 109 20 ttctcatgat gaggtgtacc <210> 110

<211> 20 <212> DNA

<220>

<213> Artificial Sequence



### <223> Antisense Oligonucleotide

WO 03/088921

<400> 110 tgttgcaaga atttctcatg	20
<210> 111 <211> 20	
<212> DNA <213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 111	
actgtgcaag tgttgcaaga	20
<210> 112 <211> 20	
<212> DNA	
<213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
<400> 112 tacattttca ctgtgcaagt	20
tacaccetta etgegeaage	20
<210> 113	
<211> 20 <212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<pre>&lt;400&gt; 113 tgacatttat tacaattaca</pre>	20
<210> 114	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 114	
ggtttgtgac atttattaca	20
<210> 115	
<211> 20	

## PCT/US03/12544

W O 03/000721	
<212> DNA <213> Artificial Sequence	
(213) ALCITICAL DEGACAGE	
<220> <223> Antisense Oligonucleotide	
-	
<400> 115	20
caaagtggtt tgtgacattt	20
<210> 116	
<211> 20 <212> DNA	
<213> Artificial Sequence	
<220> <223> Antisense Oligonucleotide	
(223) Micisense Oligonacieotiae	
<400> 116	
tcaagttcac aactgcaggc	20
<210> 117	
<210> 117 <211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 117 catagttaca atcaagttca	20
catagetaca atcaagetea	20
<210> 118	
<211> 20	
<212> DNA <213> Artificial Sequence	
<220>	
<223> Antisense Oligonucleotide	
<400> 118	
acaaccacta tgtgtttata	20
<210> 119	,
<211> 20	
<212> DNA	
<213> Artificial Sequence	

<400> 119

<223> Antisense Oligonucleotide

<220>

# 20 agccgataca accactatgt <210> 120 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 120 20 gtttcattca gtgtgaggta <210> 121 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 121 20 gaagttgata ttacctttat <210> 122 <211> 20 <212> DNA <213> Artificial Sequence <220> <223> Antisense Oligonucleotide <400> 122 20 tttacgaagt tgatattacc

WO 03/088921

PCT/US03/12544